



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
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## The Integration of Science and Math through Ecosystems

Guide for Curriculum Unit 92.05.06  
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This unit is geared for remedial math students but may also be used for mainstream science and math classes in grades five through eight. The unit incorporates the concepts of ecosystems into a generally math-based classroom. Science and math are closely related by nature and this unit uses the science-math connection in that it extracts mathematical and arithmetic concepts from the study of ecosystems and ecology.

This unit is intended specifically for math teachers who would like to bring science into their classrooms slowly and subtly with the help of the natural curiosity of their students. The science-math integration will begin at the onset of the school year when the class will discuss the application of math to other subjects and the students themselves will discover the strong math-science connection.

Because the unit is interdisciplinary in nature, it requires communication between science and math teachers. Some of the activities in the unit are aimed at making the entire school aware of ecological concepts. One of the lesson plan's overall goal is to launch a school-wide paper conservation campaign.

The unit does not attempt to transform a math classroom into a science laboratory. The most complicated experiment uses plastic soda bottles and soil. The unit deals more with discussion of ecosystems and ecology than with experimentation. The topics discussed are small and then grow in magnitude and complexity. The unit's fundamental objective is to make students aware of the math inherent in ecology and to thereby realize that math is useful and necessary in its connection to the world in which they live.

(Recommended for Science and Math, grades 5-8)

### **Key Words**

*Ecosystems Ecology Environmental Science Mathematics New Haven Connecticut Inherent*

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